



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,896	03/16/2004	Rajesh K. Balan	YOR920040010US1	3383
48813	7590	10/05/2007	EXAMINER	
LAW OFFICE OF IDO TUCHMAN (YOR)			CLOUD, JOIYA M	
82-70 BEVERLY ROAD			ART UNIT	
KEW GARDENS, NY 11415			PAPER NUMBER	
			2144	
			NOTIFICATION DATE	DELIVERY MODE
			10/05/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ITUCHMAN@TUCHMANLAW.COM

**Office Action Summary**

Application No.

10/801,896

Applicant(s)

BALAN ET AL.

Examiner

Joiya M. Cloud

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

***DETAILED ACTION***

1. This action is responsive to the application filed on March 16, 2004. Claims 1-32 represent Generalized on-demand service architecture for interactive applications.

***Claim Objections***

2. Claim 5 is objected for the minor informalities: because of a grammatical error. Claim 5 does not end with a period. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Catchpole et al. (U.S. Publication No. 2003/0005028 A1, hereinafter **Dritschler**).

As per claim 1, Dritschler teaches method for executing a network-based distributed application, the method comprising: executing application instances of the distributed application in application containers (**Abstract, paragraphs [0017] and [0030], where the containers are the server address spaces**); calculating quality of service metrics for each application instance (**paragraph [0018], lines 9-15, paragraph [0030], [0034] and [0038], where quality of service metrics are the performance criteria and goals**); and distributing application workload among the application instances using a decentralized workload management layer based on the quality of service metrics (**Abstract, paragraph [0028] and [0029], Dritschler teaches** ).

As per claim 2, Dritschler teaches the method further comprising associating application containers with autonomous workload management elements, the workload management elements forming the workload management layer (**paragraph [0028]**).

As per claim 3, Dritschler teaches the method further comprising coordinating the application instances through a coordination mechanism coupled to the workload management layer (**paragraph [0029]**).

As per claim 4, Dritschler teaches the method wherein distributing application workload among the application instances further comprises reducing workload assigned to an application container when the quality of service metrics reach an overload threshold value (**paragraphs [0037]-[0038]**).

As per claim 5, Dritschler teaches the method wherein reducing workload assigned to the application container further comprises: examining an encoding of work unit groups provided by each application instance (**paragraph [0032]**); splitting a currently assigned work unit group into

Art Unit: 2144

smaller work unit groups (**paragraph [0037]-[0038] and [0043]**); assigning at least one of the smaller work unit groups to other application containers (**paragraph [0037]-[0038]**); and utilizing a coordination mechanism to update changes in workload assignments to the other application containers

**As per claim 6**, Dritschler teaches the method wherein distributing application workload among the application instances further comprises increasing workload assigned to the application container when the quality of service metrics reach an under-load threshold value (**paragraph [0040]-[0042], and [0044]**).

**As per claim 7**, Dritschler teaches the method wherein increasing workload assigned to the application container further comprises: examining an encoding of work unit groups provided by each application instance (**paragraph [0038]**); combining at least two currently assigned work unit groups into a smaller work unit group (**paragraph [0038]**); assigning the smaller work unit group to the application container (**paragraph [0038]**); and utilizing a coordination mechanism to update changes in workload assignments to the other application containers (**paragraph [0038]**).

**As per claim 8**, Dritschler teaches the method further comprising dividing workload assigned to a single application instance to at least two application instances if a quality of service metric reaches an overload threshold (**paragraph [0044]**).

**As per claim 9**, Dritschler teaches the method further comprising: dividing a total workload performed by the distributed application among the application instances (**paragraph [0043]-[0045]**); assigning each of the application instances a fractional workload (**paragraph**

[0043]-[0045]); and filtering client requests at the application containers based on the fractional workload assigned to the application instances (**paragraph [0043]-[0045]**).

**As per claim 10**, Dritschler teaches the method further comprising migrating a client from a first application container to a second application container if workload from the client is not assigned to the application instance executing at the first application container (**paragraph [0028]**).

**As per claim 11**, Dritschler teaches the method further comprising labeling client requests such that application containers can determine if the requests belong to the fractional workload assigned to the application instances (**paragraphs [0028] and [0032]**).

**As per claim 12**, Dritschler teaches the method further comprising receiving the application instances from application loaders.

**As per claim 13-14**, claims 13-14 are substantially the same as claims 1-2, but in system form rather than method form. Therefore, the rejection for claims 1-2 applies equally as well to claims 13-14.

**As per claims 15-16**, claims 15-16 are substantially the same as claims 7-8, but in system form rather than method form. Therefore the rejection for claims 7-8 applies equally as well to claims 15-16.

**As per claims 17 and 18**, Dritschler teaches the system wherein each application container is further configured to pass inbound packets to executing application instances when the inbound packets belong to the its assigned workload, and to pass inbound packets to its

Art Unit: 2144

associated workload management element when the inbound packets do not belong to its assigned workload and further comprising workload tags coupled to data packets of application containers, the workload tags configured to allow application containers to identify whether the inbound packets belong to its assigned workload (**paragraphs [0028] and [0029]**).

**As per claim 19**, Dritschler teaches the system further comprising a coordination mechanism configured to workload management elements to locate each other and determine the current work assignments of each application container (**paragraph [0028]**).

**As per claim 20**, Dritschler teaches the system further comprising an application loader configured to provide executable application code to application containers (**paragraph [0018]**).

**As per claims 21-32**, claims 21-32 are substantially the same as claims 1-12, but in computer program product form rather than method form. Therefore the rejection for claims 1-12 applies equally as well to claims 21-32.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joiya Cloud whose telephone number is 571-270-1146. The examiner can normally be reached Monday to Friday from on 7:30am-5:00pm.

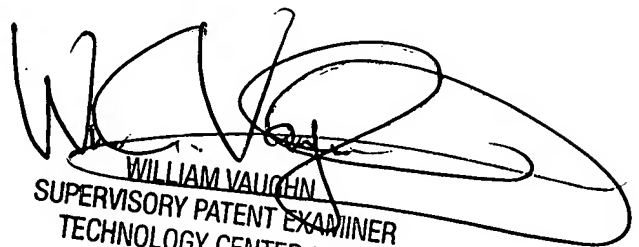
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3922. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

***JMC***

**William C. Vaughn**

**Supervisory Patent Examiner**

**September 21, 2007**

  
WILLIAM VAUGHN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100